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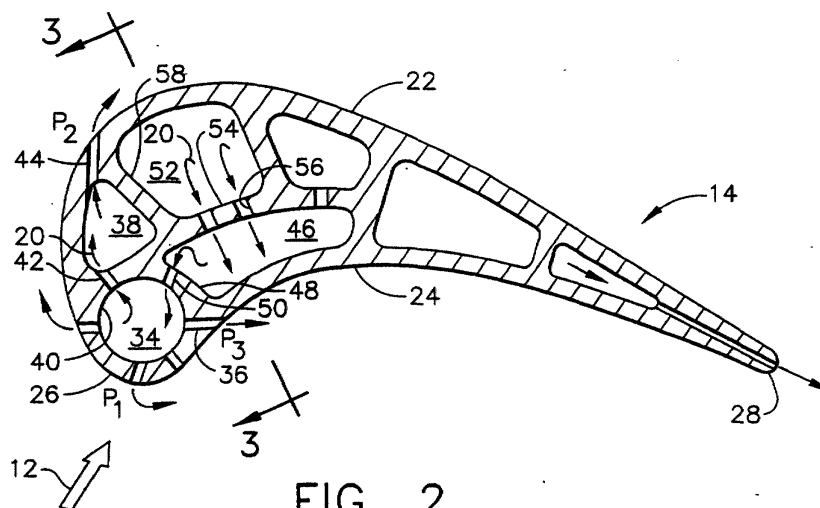
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(54) **Airfoil isolated leading edge cooling**

(57) A gas turbine engine airfoil (14) includes first and second sidewalls (22,24) joined together at opposite leading and trailing edges (26,28), and spaced apart from each other therebetween to define a leading edge channel (34) extending longitudinally from a root to a tip of the airfoil. A plurality of film cooling holes (36) extend through the leading edge and are disposed in flow communication with the leading edge channel. An isolation

plenum (38) extends along the first sidewall and adjacent the leading edge channel, and is separated therefrom by a partition (40) having a plurality of inlet holes (42). A plurality of film cooling gill holes (44) extend through the first sidewall, and are disposed in flow communication with the isolation plenum. Cooling air is channeled from the leading edge channel to the isolation plenum for feeding the gill holes with reduced pressure air.



**FIG. 2**

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# EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 9108

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			F01D
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>8 October 2001</b>	Examiner <b>Raspo, F</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  .....  &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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